

Surface Metrology Program

Goal

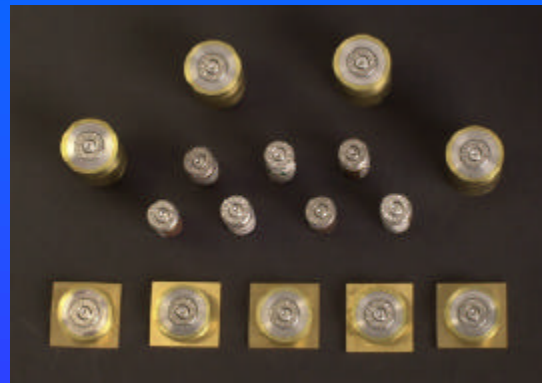
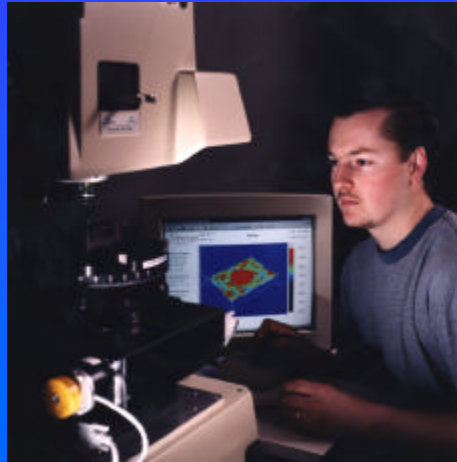
- To deliver to U.S. industry measurement services in surface and microform metrology of unimpeachable quality and of a variety that industry requires. The desired outcome is the accumulated savings to industry of \$80 M over the next five years.

Deliverables

- First test report using a new uncertainty budget for interferometric microscopy.
- Upgraded control charts for roughness and step height measurements.
- Fabrication plan and proposal for production of SRM bullets.

Customers and Collaborators

- Bureau of Alcohol, Tobacco, and Firearms, Veeco Instruments, VLSI Standards, ThermoMicroscopes, Texas Instruments.

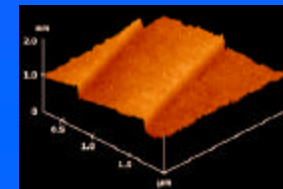


Recent Highlights:

- New Standard Reference Materials
 - Sinusoidal Profile SRM 2071b released

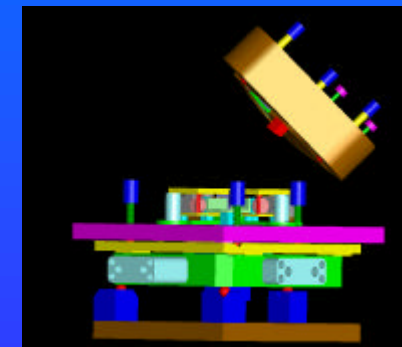
- Laboratory Comparisons ongoing or completed

- 1D Gratings
- Linewidth
- Step Height
- Roughness & Step Height
- Si wafer profiling
- Si atomic steps



- Instrument Development

- New sensor head, new stage for Calibrated Atomic Force Microscope



- Metrology research

- FEA of hardness process
- Reflectance of materials